FABRICATION AND OPTIMIZATION OF CYANOACRYLATE NANOCOMPOSITES FOR ION BEAM ETCHING PROCESS ON HARD DISK SLIDER

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2018

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by

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Thesis submitted in fulfilment of the
requirements for the degree of
Doctor of Philosophy

August 2018

ACKNOWLEDGEMENT

My most sincere appreciation is forwarded to my main supervisor, Prof. Ir. Dr. Mariatti Binti Jaafar @ Mustapha, for being an excellent mentor, taking precious time of her busy schedule to supervise my research activities and giving me expert guidance, constant attention, valuable comments and enthusiastic support throughout the whole course of this study. My heartfelt thanks also go to Dr. Khatijah Aisha binti Yaacob and Dr. Abdullah Aziz bin Saad, my co-supervisors, for providing constructive criticisms, invaluable discussions, incessant support, guidance and encouragement during my studies.

Special thanks to Dean, Prof. Dr. Zuhailawati binti Hussain and all the staff in School of Materials and Mineral Resources Engineering USM, for their co-operation and invaluable help throughout my studies. I would like to put forward my gratitude to the technical staffs namely En. Mokhtar, En. Rashid, En. Azam, En. Khairi and all the numerous peoples whose names have not been mentioned.

I also would like to thank Western Digital Media (Malaysia) Sdn. for fully support me in research cost and any research related topics. I would also like to extend my sincere appreciation to all ex-colleagues in this company for giving me full supports and guidance, especially to Loo Kah Choong, Vishwanath Ramaswamy, Brendan Hanley, Mark Moravec, Liew Yong Hui, Chung Jiunn Mine, SI Goh, Andy Lim, Gideon Teh and Eng Kae Yang.

Special thanks and acknowledgement is given to the Ministry of Education Malaysia (MOE) for the MyBrain15 (MyPhD Industry) Scholarship that made this research becomes possible.

Last but not least, I would also like to take this opportunity to thank my family members, close friends whose patient love and care enabled me to complete this project.

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H_1	Alternative hypothesis
ν	Average phonon velocity
cP	Centipoise
Δx	Change in x
Δy	Change in y
I_{cure}	Cure index
˚	Degree
˚C	Degree Celsius
°F	Degree Fahrenheit
ρ_f	Density of filler
ρ_m	Density of matrix
K_e	Effective thermal conductivity
eV	Electron-volt
E	Energy
g	Gram
g/cm^3	Gram per cubic centimeter
R_k	Interfacial thermal resistance
K	Kelvin
kN	Kilo newton
kHz	Kilohertz
MPa	Mega pascal
μm	Micrometre
mg	Milligram

ml	Millilitre
mm	Millimetre
mPa.s	Millipascal seconds
min	Minute
nm	Nanometer
H_0	Null hypothesis
Ω-m	Ohm meter
Ω/sq	Ohm per square
%	Percentage
l	Phonon mean free path
π	Pi
Pt	Point
psi	Pounds per square inch
P	Power
cm^{-1}	Reciprocal of meters
rpm	Revolutions per minute
Hz	Revolutions per second
S/m	Siemens per meter
C_p	Specific heat capacity per unit volume
m^2/g	Square meter per gram
sccm	Standard cubic centimeter per minute
ρ_s	Surface resistivity
E	Tensile modulus
σ_{max}	Tensile strength
λ	Thermal conductivity

K_m	Thermal conductivity of the matrix
t	Time
W_F	Total weight of filler
W_T	Total weight of uncured mixture
ε_{ult}	Ultimate strain
V	Volt
V_f	Volume fraction of filler
vol.%	Volume percentage
ρ_v	Volume resistivity
W	Watt
W/m.K	Watts per meter-kelvin
W_f	Weight fraction of filler
wt.%	Weight percentage

LIST OF ABBREVIATIONS

1D	One dimensional
2D	Two dimensional
ABS	Air-bearing surface
Ag	Silver
Al	Aluminum
Al_2O_3	Aluminum oxide
ATR	Attenuated total reflectance
BN	Boron nitride
CB	Carbon blacks
CI	Confidence Interval
CNTs	Carbon nanotubes
Coef	Coefficient
Cu	Copper
CVD	Chemical vapor deposition
DF	Degree of freedom
Dia.	Diameter
DOE	Design of experiment
ESD	Electrostatic discharge
F-value	F distribution
FESEM	Field Emission Scanning Electron Microscopy
FTIR	Fourier transform infrared spectroscopy
GLM	General linear model
GO	Graphene oxide